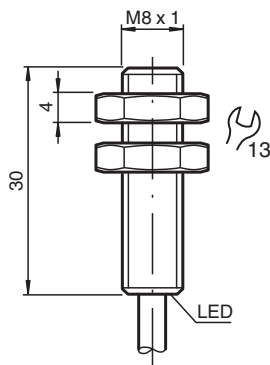


## Inductive sensor NBB2-8GM30-E3

- 2 mm flush
- Increased operating distance
- Extended temperature range  
-40 ... +85 °C



### Dimensions



### Technical Data

#### General specifications

|                              |       |                                                                           |
|------------------------------|-------|---------------------------------------------------------------------------|
| Switching function           |       | Normally closed (NC)                                                      |
| Output type                  |       | PNP                                                                       |
| Rated operating distance     | $s_n$ | 2 mm                                                                      |
| Installation                 |       | flush                                                                     |
| Output polarity              |       | DC                                                                        |
| Assured operating distance   | $s_a$ | 0 ... 1.62 mm                                                             |
| Actuating element            |       | mild steel, e. g. 1.0037, SR235JR (formerly St37-2)<br>8 mm x 8 mm x 1 mm |
| Reduction factor $r_{Al}$    |       | 0.4                                                                       |
| Reduction factor $r_{Cu}$    |       | 0.3                                                                       |
| Reduction factor $r_{304}$   |       | 0.75                                                                      |
| Reduction factor $r_{Brass}$ |       | 0.45                                                                      |
| Output type                  |       | 3-wire                                                                    |

#### Nominal ratings

|                             |       |                            |
|-----------------------------|-------|----------------------------|
| Operating voltage           | $U_B$ | 5 ... 30 V                 |
| Switching frequency         | $f$   | 0 ... 6000 Hz              |
| Hysteresis                  | $H$   | typ. 5%                    |
| Reverse polarity protection |       | reverse polarity protected |
| Short-circuit protection    |       | pulsing                    |

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Refer to "General Notes Relating to Pepperl+Fuchs Product Information".

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**PEPPERL+FUCHS**

## Technical Data

|                                                 |       |                                                                                                                                                                                         |
|-------------------------------------------------|-------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Voltage drop                                    | $U_d$ | $\leq 1.5 \text{ V}$                                                                                                                                                                    |
| Operating current                               | $I_L$ | 0 ... 100 mA                                                                                                                                                                            |
| Off-state current                               | $I_r$ | 0 ... 0.2 mA                                                                                                                                                                            |
| No-load supply current                          | $I_0$ | $\leq 10 \text{ mA}$                                                                                                                                                                    |
| Time delay before availability                  | $t_v$ | $\leq 100 \text{ ms}$                                                                                                                                                                   |
| Switching state indicator                       |       | LED, yellow                                                                                                                                                                             |
| <b>Functional safety related parameters</b>     |       |                                                                                                                                                                                         |
| MTTF <sub>d</sub>                               |       | 960 a                                                                                                                                                                                   |
| Mission Time (T <sub>M</sub> )                  |       | 20 a                                                                                                                                                                                    |
| Diagnostic Coverage (DC)                        |       | 0 %                                                                                                                                                                                     |
| <b>Compliance with standards and directives</b> |       |                                                                                                                                                                                         |
| Standard conformity                             |       |                                                                                                                                                                                         |
| Standards                                       |       | EN IEC 60947-5-2                                                                                                                                                                        |
| <b>Approvals and certificates</b>               |       |                                                                                                                                                                                         |
| UL approval                                     |       | cULus Listed<br>Load Type: General Purpose<br>Circuitry: Class 2 Power Source<br>Enclosure Type Rating: Type 1<br>Supply/Switching Voltage: 30 V DC<br>Output Switching Current: 100 mA |
| CCC approval                                    |       | CCC approval / marking not required for products rated $\leq 36 \text{ V}$                                                                                                              |
| <b>Ambient conditions</b>                       |       |                                                                                                                                                                                         |
| Ambient temperature                             |       | -40 ... 85 °C (-40 ... 185 °F)                                                                                                                                                          |
| Storage temperature                             |       | -40 ... 85 °C (-40 ... 185 °F)                                                                                                                                                          |
| <b>Mechanical specifications</b>                |       |                                                                                                                                                                                         |
| Connection type                                 |       | cable                                                                                                                                                                                   |
| Housing material                                |       | brass, nickel-plated                                                                                                                                                                    |
| Sensing face                                    |       | LCP                                                                                                                                                                                     |
| Degree of protection                            |       | IP65 / IP66 / IP67                                                                                                                                                                      |
| <b>Cable</b>                                    |       |                                                                                                                                                                                         |
| Wire end ferrules                               |       | yes                                                                                                                                                                                     |
| Cable diameter                                  |       | 3.5 mm $\pm$ 0.1 mm                                                                                                                                                                     |
| Bending radius                                  |       | > 10 x cable diameter                                                                                                                                                                   |
| Material                                        |       | PVC                                                                                                                                                                                     |
| Color                                           |       | black                                                                                                                                                                                   |
| Number of cores                                 |       | 3                                                                                                                                                                                       |
| Core cross section                              |       | 0.14 mm <sup>2</sup>                                                                                                                                                                    |
| Length                                          | L     | 2 m                                                                                                                                                                                     |
| <b>Dimensions</b>                               |       |                                                                                                                                                                                         |
| Length                                          |       | 30 mm                                                                                                                                                                                   |
| Diameter                                        |       | 8 mm                                                                                                                                                                                    |
| <b>General information</b>                      |       |                                                                                                                                                                                         |
| Scope of delivery                               |       | 2 hex nuts included                                                                                                                                                                     |

## Connection Assignment

